

RENUCE -
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APPLICATION
&

DRAWINGS

1 **"SUPPORT BRACKET FOR SUSPENDING OBJECTS
2 FROM A STUD OR THE LIKE"**

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4 **FIELD OF THE INVENTION**

5 This invention relates to the field of support brackets and more
6 particularly to a one-piece support bracket which can be removably attached to a
7 building stud or other substantially vertical member for supporting objects therefrom,
8 and when two such brackets are employed, the device can be used to support
9 objects therebetween.

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11 **BACKGROUND OF THE INVENTION**

12 Applicant is not aware of a one-piece bracket which is removably
13 attachable to building studs or other vertical members and which can support
14 objects. A system of multiple brackets and rods is known to be removably
15 attachable to building studs through the supplemental use of fasteners and capable
16 of supporting sheets of building material, as shown in US 6,293,058 to Sink. A
17 bracket arrangement, consisting of two interconnectable bracket members, is
18 known for mounting pipe or the like to a support member using spring clips and
19 fasteners, as shown in US 3,536,281 to Meehan et al.

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SUMMARY OF THE INVENTION

2 The support bracket of the invention provides a one-piece, easy to use
3 removably attachable bracket to support a variety of objects from a substantially
4 vertical member. No supplemental fasteners are required to adapt the bracket to
5 attach to the vertical member.

6 In a broad aspect, a load supporting bracket adapted for attaching to a
7 substantially vertical member such as a stud comprises: a side member having front
8 and rear ends; a front leg and a rear leg co-protruding from the front and rear ends
9 of the side member respectively and forming a first opening greater than a depth of
10 the stud therebetween; and a support member extending from the front end of the
11 side member and adapted for supporting a load, the bracket having an installation
12 position wherein the first opening is oriented for installation laterally onto the stud
13 and the bracket having an supporting position wherein the bracket is rotated to
14 lower the support member until the front leg engages the front face of the stud and
15 the rear leg engages the rear face of the stud. Preferably, the leg further comprises
16 anchors for engaging the stud and preventing movement therebetween.

17 Installation of the bracket is accomplished by initially orienting the
18 bracket in a manner wherein the side member is adjacent one side of the vertical
19 member and the pair of legs straddle the front and rear faces of the vertical member
20 respectively. The bracket is rotated for moving the leg members to an engaging
21 position with the front and rear faces of the vertical member. Optional anchors
22 engage the vertical member for retaining the bracket therewith for substantially
23 precluding movement therebetween.

1 In one embodiment the support means comprises a hook member. In
2 another embodiment the support means comprises an axle and a plurality of rollers
3 rollably mounted thereon. In a third embodiment the support means comprises an
4 elongate support plate.

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6 BRIEF DESCRIPTION OF THE DRAWINGS

7 Figure 1 is a side view of one embodiment of the bracket of the
8 invention;

9 Figure 2 is a front view of the embodiment of Fig. 1;

10 Figure 3 is a rear view of the embodiment of Fig. 1;

11 Figures 4a and 4b are side views of the embodiment of Fig. 1 and
12 show the bracket in the installation position ready for installation on a stud and
13 rotated to the support position on a stud respectively;

14 Figures 5a and 5b are side views of the embodiment of Fig. 1, from
15 the opposite side as that in Figures 4a and 4b, and show the bracket in the
16 installation position ready for installation on a stud and rotated to the support
17 position on a stud respectively;

18 Figure 6a is a front view of the embodiment of Fig. 1 and shows the
19 bracket installed on a stud and supporting a rod such as that using with a reel of
20 material;

21 Figure 6b is a side view of an alternate embodiment of the bracket and
22 which shows the bracket supporting a reel rotatably mounted on a rod extending
23 between two brackets;

1 **Figure 7a is a side view of an alternate embodiment of the Invention**
2 **incorporating rollers on the support member;**

3 **Figure 7b is a side view of a pair of vertically spaced brackets of the**
4 **embodiment of Fig. 7a installed on a stud for supporting a coil of material;**

5 **Figure 8 is a front view of the embodiment of the invention illustrating**
6 **a reel rotatably mounted on a rod extending between two brackets;**

7 **Figure 9 is a front view of the embodiment of the invention illustrating**
8 **a work surface extending between two brackets.**

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1 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

2 With reference to various embodiments shown in Figs. 6a - 9, a stud
3 clip or support bracket 10 is shown which is removeably attachable to a
4 substantially vertical member 12, such as a wood stud, metal stud or the like. An
5 extension or support member 24 protrudes from the front of the bracket 10 for
6 supporting or suspending an object 11 therefrom.

7 In Figs. 4a - 6b, the support bracket 10 can be seen to comprise a
8 side plate or side member 14 and a pair of front and back walls or legs 16, 18
9 extending substantially perpendicularly from the same side of the side member 14
10 and from front and rear ends of the side member 14 respectively. The support
11 member 24 extends from the front end of the side member 14.

12 The legs 16,18 are spaced, forming a first opening 20 which is sized
13 to permit positioning of the bracket 10 laterally over the depth of the vertical support
14 member 12 when oriented in an installation position (Fig. 4a,5a). Once positioned,
15 the bracket 10 is rotated to a supporting position (Figs. 4b,5b) for moving the leg
16 members 16, 18 into a load supporting and engaging position with the front and rear
17 faces of the vertical member 12. Support means or support member 24 is provided
18 for supporting or suspending the object 11. Weight of the support member
19 extending from the bracket 10, and additional weight of the object 11 cause the
20 bracket to rotate pressing leg 16 into the front face stud, and pulling leg 18 into the
21 back face of the stud. Typically friction ensures that the bracket 10 does not slide
22 down the stud.

1 In Figs. 4a-5b, support member 24 is depicted as a hook member 24a
2 which projects outwardly and downwardly at a substantially 45 degree angle
3 downward from the vertical member 12. Thus, an object 11 to be supported or
4 suspended from the vertical member 12 may be engaged on the hook member 24a,
5 the legs 16,18 supporting the bracket and object supported thereon from the vertical
6 member 12. In Figs. 7a, 7b and 9, the support member 24 extends substantially
7 horizontally from the side member 14 for supporting a variety of different objects 11
8 as described later.

9 When it is desired to remove the bracket 10, it may be easily
10 disengaged from the vertical member 12 by rotating the bracket 10 from the
11 supporting position in a direction opposite that of installation for enabling releasing
12 the bracket laterally from the vertical member 12.

13 As stated, load on the support member 24 and friction between the
14 legs 16,18 and vertical member 12 is generally sufficient to support the bracket 10
15 from movement thereon. Preferably, there is additionally provided front, side or
16 back anchor teeth 22 which bite or engage with the vertical member 12 for more
17 securely retaining the bracket 10 thereon and substantially precluding accidental
18 disengagement therebetween. The anchor teeth 22 may be easily disengaged from
19 the vertical member 12 by rotating the bracket 10 in a direction opposite that of
20 installation.

21 Preferably the bracket 10 is constructed of non-corrosive aluminum
22 plate with a thickness of 1/8th of an inch or greater. Alternatively the bracket 10 may
23 be constructed of a suitable plastic.

1 As stated, a variety of objects 11 can now be supported from the
2 bracket 10 including reels 30 of materials like wire and tubing, or work surfaces 40.

3 With reference to Figs. 1 – 6b and 10, a preferred embodiment of the
4 bracket 10 is shown as adapted for supporting objects 11 such as reels or spools
5 30. The vertical member 10 is referred to as a stud for simplicity however it is not to
6 be limiting. In this embodiment, the support bracket 10 comprises a substantially
7 planar side member 14 of substantially parallelogram shape. The pair of legs 16,
8 18 are L-shaped comprising a transverse member 16a, 18a respectively and, for
9 greater stability, tabs 16b, 18b respectively. The transverse members 16a, 18a co-
10 protrude substantially perpendicularly and from the same side of the side member
11 14. The tabs 16b, 18b project generally towards each other from the transverse
12 members 16a, 18a at substantially right angles and over the opening 20 and
13 therefore are substantially parallel to the side member 14. The tabs 16b, 18b have a
14 limited length and form a smaller second opening 21.

15 In the preferred embodiment the transverse members 16a, 18a are
16 substantially parallelogram-shaped, the tabs 16b, 18b are substantially triangular in
17 shape. The tabs 16b, 18b are off-set from each other along the planar axis of the
18 side member 14 and positioned at diametrically opposite corners relative to the side
19 member 14. The support member 24 in this embodiment comprises a hook
20 member 24a extending from the plate 14.

21 As shown in Fig. 6a, advantageously, to provide increased stability,
22 the minimum distance between the side member 14 and tabs 16b, 18b is only
23 slightly greater than the width of the vertical member 12 or stud.

With reference to Figs. 4a,5b, the bracket 10 of this embodiment is initially oriented with the opening 20 adjacent one side of the stud and inserted thereover. The bracket is rotated to engage the leg members 16,18 with the front and rear faces of the stud with the support member 24 extending forward.

Advantageously, a pair of brackets 10 may be installed on spaced apart such as on adjacent studs 12. A object 11 such as a axle rod 11a may be supported on the hooks 24a of the pair of brackets 10. A reel or spool 30 of electrical wire or plumbing tubing can be rollably mounted on the rod 11a and so as to facilitate the dispensing of electrical wire from the spool.

Referring now to Figs. 7a and 7b, a second roller embodiment of the bracket 10 is illustrated adapted for forming enabling dispensing of coils or providing a roller work surface for enabling substantially frictionless transverse motion. In this embodiment the support member 24 comprises an arm or substantially planar mounting extension 24b extending from the side member 14. The extension 24b is "U"-shaped and supports a plurality of rollers 24c mounted on an axle 24d. Preferably the axle 24d extends between transverse member 16 and a bolt-mounting bracket 24e spaced therefrom. The axle 24d can also form an anchor 22 for engaging the stud 12 during use.

Installation of this embodiment is similar to that discussed for the preferred embodiment above. A single bracket 10 may be installed on a vertical member (not shown for clarity of tab 18b) and can be used to support a coil of plastic plumbing or water line (not shown). Alternatively, and referring to Fig. 7b, a pair of brackets 10 of this embodiment may be installed on a single vertical member

1 12 as illustrated, and an object such as a length of plastic water line (not shown)
2 may be spooled across both brackets 10 so as to create a coil of water line.

3 Referring to Fig. 8 and similar to Fig. 6b, a reel 30 is supported on
4 support member 24. A pair of brackets 10 are installed on spaced apart vertical
5 members 12, which may be immediately adjacent, and a rod 11a extends
6 therebetween for support by both brackets 10.

7 Referring to Fig. 9, a pair of brackets 10 of this embodiment are
8 installed on spaced apart vertical members 12 and a work surface 40 extends
9 therebetween for support by both brackets 10.